

ABSTRACT OF THE DISCLOSURE

Disclosed is a wavelength division multiplexing-passive optical network (WDM-PON) that enables the integration of broadcast and communication data, in which digital broadcasting and communication services are integrated and transmitted using WDM. An optical line terminal, connected to a broadcasting network and an Internet protocol network, receives a digital broadcast signal from the broadcasting network and a first communication signal from the IP network, and transmits them as a single (broadcast/communication) integrated optical signal after their photoelectric conversion, and further transfers a second communication signal from a service user to the IP network. An optical network terminal/optical network unit on the user side transfers the integrated optical signal from the optical line terminal to the user, and transfers channel-information data of a digital broadcast desired by the user and user data including the second communication signal from the user to the optical line terminal. A first WDM demultiplexer WDM-demultiplexes the single signal and transfers it to the optical network terminal/optical network unit. A first WDM multiplexer WDM-multiplexes the user data and transfers it to the optical line terminal.